

REMARKS

Claims 1 – 8 are pending in this application. Claim 1 is currently amended. No new matter has been added as a result of this amendment. Claims 6 – 8 are cancelled. In view of the amendment and the following remarks, the Applicants respectfully request reconsideration of this application.

Claim Objections:

The Examiner has objected to claims 2 and 6 – 8. As to claim 2, the Examiner suggests that the claim language “supporting shafts” should be “supporting shaft.” The Applicants respectfully direct the Examiner to Figure 2. The supporting shafts are illustrated in Figure 2 with reference number 8. As can be seen, there are two different supporting shafts which are not connected to each other. Instead, “the supporting shafts 8 [are] fixed to the side plates 2a of the main body case 2 facing each other.” (P. 9, lines 12 – 14).

As to claims 6 – 8, the claims are hereby canceled which should resolve the Examiner’s objections.

Rejections of Claims 1 – 8 under 35 U.S.C. §102:

Claims 1 – 8 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,750,880 (the “’880 patent”) to Stephenson et al. Applicants have rewritten claim 1 and submit that the claims overcome the rejection.

The present invention is directed towards a thermal printer which includes a thermal head on the basis of printing information. The thermal head may comprise a long line head which makes uniform pressure contact with a platen roller. The thermal head is supported, at each end, by a pair of head supporting members. At least one of the head supporting members includes a hole shape that houses a supporting shaft, the inner surfaces of the hole shape are formed in a circular arc shape; the center of the arc being the contact point of the thermal head and the platen roller.

The ’880 patent is directed towards a thermal printer. In this invention, the printing head is fixedly secured to a lower bracket 30. A pivot shaft passes through holes in the bracket (40a and 40b) about which the bracket and affixed components may rotate. According to the ’880 patent,

[t]he hole 40a is circular in configuration and is formed to provide a tight tolerance fit relative to the fixed pivot shaft 39 so as to permit only rotational motion of the bracket. The second hole 40b is a slot and is arranged so that the lower bracket 30 can both translate and rotate in such slot.

(Col. 4, lines 51 – 56) (*emphasis added*). Moreover, the patent further defines hole 40b when it indicates that “the slot 40b is aligned so that the major axis of the slot is perpendicular to a line running from the printing nip to the center axis of the pivot shaft 39.” (Col. 4, lines 64 – 66) (*emphasis added*).

In order for a reference to act as a §102 bar to patentability, the reference must teach each and every element of the claimed invention. Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987). Without the required teaching of each and every element as set forth in the claims, it is improper for the Examiner to continue such rejections under §102.

Claim 1 has been amended to recite a limitation where at least one of the hole shapes in the head supporting members has facing inner surfaces in the longitudinal direction formed in a circular arc shape whose center is the contact point of the thermal head and the platen roller. This limitation is not present in the structure described in the '880 patent. To the contrary, in the '880 patent, one of the holes in the lower bracket is circular while the other hole is a slot.

The text of the '880 patent is silent as to the facing inner surfaces, in the longitudinal direction, of the slot being formed in a circular arc where the center of the arc is the contact point of the thermal head and the platen roller. While the '880 patent indicates that the second slot (40b) is “arranged so that the lower bracket 30 can both translate and rotate in such slot,” (Col. 4, lines 55 – 56), this may be accomplished without the limitation as set forth in claim 1. If the width of the slot is larger than the diameter of the pivot shaft, the bracket would be able to translate and rotate without the inner surfaces, along the major axis, of the slot being formed in a circular arc.

The Examiner points to Figures 4a and 4b as teaching inner surfaces of the elongated hole shape formed in a circular arc where the center of the arc is a contact point of the thermal head and the platen roller. These figures fail to teach the limitation. Although the ends of the slots illustrated in Figures 4a and 4b of the '880 patent are circular arcs, the centers of these arcs is not the contact point of the thermal head and the roller. Instead, the center of each of these

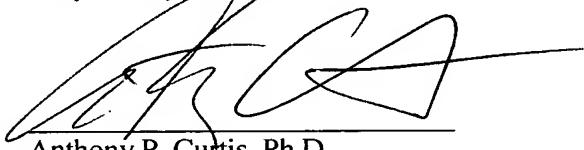
arcs is located somewhere along the line that is perpendicular to the line drawn between the pivot shaft and the point of contact between the thermal head and the roller. Moreover, these circular portions are not in the longitudinal direction.

For at least these reasons, the Applicants believe the amendment places claims 1 – 3 and 5 in condition for allowance. Applicants respectfully request reconsideration of these claims.

SUMMARY

In view of the claim amendment and remarks above, Applicants respectfully submit that all of the pending claims are in condition for allowance. If for any reason, the Examiner believes that the amendments and remarks do not put the claims in condition for allowance, the undersigned attorney may be reached at (312) 321-4249 to resolve any remaining issues.

Respectfully submitted,



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